



Model MSC815

Mach 1® Lightning™

8/15 Minute SpeedCharger™

For AA & AAA Size NiMH Batteries

PLEASE READ THE INFORMATION AND FOLLOW ALL INSTRUCTIONS THOROUGHLY BEFORE USING THIS PRODUCT.

Introduction

This Mach 1 Lightning SpeedCharger is a highly advanced and fully automatic battery charger which is compatible with AA and AAA size NiMH batteries like those used with digital cameras, MP3, CD players, 2-way radios, radio controlled cars, motorized toys and other power hungry devices. Further, the Mach1 Lightning can charge two of Lenmar's PROH cells in as little as 8 minutes or four PROH or high quality standard NiMH cells in as little as 15 minutes.

The Mach 1 Lightning SpeedCharger features microprocessor controlled NeoTherm®2 Active Pulse Speedcharging to charge your battery quickly and safely. This charger will charge one to four batteries at a time, each with a dedicated LED indicator to show the charge status of that individual cell.

Flexible power input allows you to use the Mach 1 Lightning SpeedCharger from home or overseas with its 100V-240V AC Universal Power Supply or on the road using the included DC Cigarette Lighter Adapter.

Notes:

- Allow cells to cool to room temperature before using
- For best results, approximately every 5th to 10th charge cycle, leave the cell on the charger to trickle charge for at least 2-3 hours to condition the cells to accept maximum charge.
- The Mach 1 Lightning charger is designed for normal room temperature operation. Use at or above 85°F (30°C) will prohibit the "8-Minute" charge from operating, and longer charge times will occur to prevent the charger and cell overheating.
- The fan inside the charger may keep running for a short time after charge is complete, or even after the cells are removed from the charger.
- It is normal for the charger, AC adapter, or the battery cells to become fairly warm during charging.
- Do not install more than one cell into any single charging location at the same time.
- Batteries will self discharge when not in use. Batteries can be kept fresh if you recharge them every 2-3 months.
- Do not store cells in the charger or otherwise leave cells in the charger while the charger is unplugged

Approximate Charge times*

PROH AA/AAA	8 minutes (2 cells middle slots)
	15 minutes (3-4 cells)
Other NiMH AA/AAA	15-20 minutes (1-4 cells)

*Actual Charge times will vary depending on the cell's capacity, discharge level, quality and condition.

Charging Your Batteries

The Mach 1 Lightning has two special high speed charging slots which are reserved for Lenmar's PROH high current cells. When charging two cells only, please follow the following diagrams which show where to insert different cells to be charged. The fast 8-minute charge will occur only if two PROH cells are installed in the middle two slots. All other combinations will result in a 15-minute charge rate. For best results, use Lenmar PROH batteries with this charger.

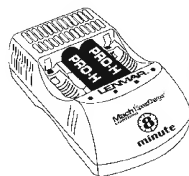


Figure 1 – Two PROH cells only (about 8 minute charge time.)

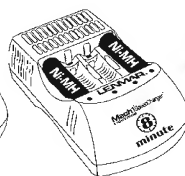


Figure 2 – One or two quality NiMH cells (about 15 minute charge time.)

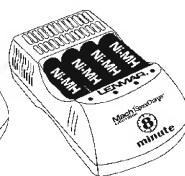


Figure 3 – Three or Four PROH or NiMH cells (about 15 minute charge time.)

Insert 1 to 4 AA or AAA NiMH rechargeable battery cells to be charged into the 4 charging locations on the charger unit (see the previous diagrams) and observing the direction of the battery as indicated on the charger. Only one AA or AAA size NiMH battery cell can be installed in each charging slot. **When charging only 2 standard NiMH cells, do not use the middle slots.**

Plug in either the AC adapter or the DC cigarette lighter power adapter, and connect the other end of the power adapter cable to the power input jack on the end of the Mach 1 Lightning SpeedCharger unit.

Trouble Shooting Tips:

- Batteries should be replaced when run time becomes short.
- If the LED status indicator does not light up when the charger unit is properly plugged into a power source, and a discharged battery is correctly installed, make sure that the AC socket or cigarette lighter has power and that the battery cell is not defective.
- Use a clean dry cloth when necessary to keep the metal contacts of both charger and battery clean.

Cautions:

- For use with AA and AAA size NiMH batteries ONLY! Use with other type batteries voids warranty and may cause damage to the charger/ battery and possibly cause injury to the user.
- Do not leave any battery cell connected to the charger for prolonged periods. Remove the battery within a reasonable time after charge is complete.
- Unplug the charger when not in use.
- Do not use, place or store the charger where it may come into contact with water or moisture.
- Always replace frayed or damaged wire and broken plugs immediately.
- Use this charger with the power adapters included in the package only.
- No user serviceable parts inside - opening the chassis will void warranty.

Specifications:

- AC Adapter: 100 – 240VAC, 50 / 60Hz
- Power Input: 11-16 VDC @ 5A minimum
- Charge Method: NeoTherm2 Charging Technology
- Speed Charge Rate: Variable, Continuously Adjusted via Microprocessor (10A max.)
- Trickle Charge Rate: 500mA avg.
- Charge Termination: NeoTherm2, max. temp., max. time
- Operating Temperature: 32 – 104°F (0 – 40°C)

The LED Indicators

Once the battery has been inserted into the charger, the LED below it will indicate the status of the battery being charged. The Mach 1 contains an internal cooling fan that will run continuously during charge cycle and for a few minutes after charge is complete to help cool down the charger and the cells.

LED On – The battery at each location is being "speed charged." Once the LED turns off, the specified battery is approximately 80% charged, and the Mach 1 will continue to trickle charge the cells for the next several hours to achieve maximum charge. The cell is ready for use. Note each charge LED is independent of the others.

LED Flashing – If an indicator LED is flashing once per second in the slot(s) where a cell is being charged, this is an indication of an ERROR condition. The cell in the slot with the flashing LED is either faulty or at the end of its life and should be replaced. The cell in that position will not receive a charge.

LED does not turn On – If the LED does not turn on upon insertion of cell. The voltage of that cell may have dropped below a healthy level. Leave the cell in the charger for a few minutes and trickle charge the cell to achieve an acceptable voltage. Remove and reinsert the cell. If the LED still does not turn on, discard the cell.

Notes:

- The Mach 1 Lightning charger is designed for use with Lenmar's PROH high current cells and quality standard NiMH (Nickel-Metal Hydride) AA and AAA cells only. Inferior quality, weak or damaged cells will not yield satisfactory results, or may cause an ERROR condition and will not be charged. **Do not attempt to charge NiCd (Nickel Cadmium) or any type of cells other than NiMH in this charger.**

Limited 3 Year Warranty

This limited warranty starts from the date of original purchase and expires three years thereafter. If, during this period, any part, because of manufacturing defects or workmanship, fails to function properly under normal use it will be repaired at no charge for parts and labor or, at our option, the product will be replaced. The following is excluded: damages from delay or loss of use of equipment or damaged batteries, malfunctions resulting from misuse, tampering, unauthorized repairs, modifications or accident.

Package the unit and its accessories carefully using ample padding material to prevent damage in transit and ship it prepaid and insured to:

LENMAR ENTERPRISES, INC.
4035 Via Pescador
Camarillo, CA 93012

When sending in product for service, your package should include evidence of date and place of purchase. Enclose \$10.00 for shipping and handling for addresses in the U.S. and \$15.00 in Canada. For outside the U.S. and Canada, freight will vary depending upon ship-to address.

Proposition 65 Notice (California)

The following statement is required in the state of California pursuant to the settlement of an action brought by the Mateel Environmental Justice Foundation against multiple electronics and appliance manufacturers

- **WARNING:** Handling the cord on this product will expose you to lead, a chemical known to the state of California to cause birth defects or other reproductive harm. **Wash hands after handling.**

For additional questions, comments or to explore other Lenmar battery solutions, visit our web site at: www.lenmar.com or call 805/384-9600 from 9AM – 5PM PST.